

NATIONAL FOREST MULTIPLE-USE LAND MANAGEMENT GUIDE

1960 - 1970

FOR

WESTERN COLORADO SUBREGION

OF

CENTRAL ROCKY MOUNTAIN AND GREAT PLAINS REGION

FOREWORD

This Subregional Plan for Multiple Use Management will serve as a guide in the development of National Forest and Land Utilization Area Block and Unit Multiple Use Land Management Plans. It was developed by a committee representing the levels of District Ranger, Forest Staff Assistant and Forest Supervisor and reviewed by the Regional Forester and his staff.

In the future lands under the administration of the Forest Service must supply more goods and services than they now do if we are to meet our objective of furnishing optimum total benefits to the public for the greatest good. This dictates that a thorough analysis and study of land management problems and opportunities be made and multiple use land management plans be developed to properly direct the management of resources and uses.

It is intended that under this guide the more specific plans will serve in particular to:

1. Direct administration in a manner to harmonize multiple resource management.
2. Provide over the long range for highest use of land for the greatest good to the total public.
3. Provide integration and implementation in managing resources and uses.
4. Provide for continuity in management direction.
5. Provide a vehicle for orientation of new administrators.
6. Obtain a better average of sound decisions by both new and old administrators.
7. Provide a base for conducting General Integrating and General Functional Inspections.
8. Provide a basis for consulting with and informing people on Forest Service management policies.

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(Date)

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I. PLANNING PERIOD

The planning period is ten years or to 1970, the estimated useful life of the plan. Review for minor revisions should be made at the end of five years, or about 1965. A major re-analysis should be made in 1970.

II. MANAGEMENT SITUATION

The area to which this subregion guide is directed includes national-forest lands; on the Western Slope of Colorado, the headwaters of the Rio Grande River and the headwaters of the North Platte River. Specifically, it includes all of the Rio Grande, San Juan, Grand Mesa-Uncompahgre, Gunnison, White River, and Routt Forests and that portion of the Arapaho Forest west of the Continental Divide.

While this guide covers national-forest land only, the resource and economic developments in all of the Western Colorado, Eastern Utah and "Four Corners" area must be considered in evaluating impacts and planning use of national-forest lands.

Pacific air masses precipitate much of their moisture as snow as they move in over the Western Slope of Colorado. Summer air from this source provides the cool temperatures and scattered afternoon showers characteristic of the subregion. The greatest amounts of precipitation occur in the winter months with June being the driest month. Higher elevations of the area receive from 10 to 30 feet of snow per year. This snow cover provides excellent skiing for 4 months or more. The snow pack yields water that is the basis for agricultural, industrial, residential complex on lands that would otherwise be a semiarid prairie. The record official low temperature in Colorado is 60 below zero at Taylor Park Dam in Gunnison County on February 1, 1951. Snow covered mountain valleys often have very cold night temperatures when skies are clear and the air is still.

The summer season in the mountains is cool and refreshing. At typical mountain stations the average July temperatures is around 60 degrees; extreme high temperatures are around 90 degrees. Above 7,000 feet nights are cool throughout the summer and the usual bright sunshine makes the day comfortably warm.

Factors which will probably affect populations during the next 20 years include industrialization based on use of vast coal resources, development of an oil shale industry, more complete manufacture of timber products, rejuvenation of the mining industry, further development of oil and gas fields, etc.

Corresponding increases in population over the entire United States will also affect Western Colorado, as the superlative scenery and unexcelled recreational opportunities of the area become better known to the travelling public.

Predictions are that the population of the subregion will be about 250,000 in 1960 and by 1980 it will be about 360,000.

Soils of the subregion can be broadly grouped into four provinces in general agreement with Fenneman's "Physiographic Divisions of the Western United States" as follows:

1. Colorado Plateau: This includes Mesa and Canyon lands which are composed mostly of sandstones. These soils are rated as medium for fertility and erosion resistance. It covers the western part of the San Juan and Gunnison National Forests and the Uncompahgre Plateau.
2. Southern Rocky Mountain Province: This covers the complex mountains of various types including the San Juans and the summit of the main range. Soils derived from felsitic rocks and granites are moderately fertile and stable. Soils derived from basalts and lava flows are the most productive.
3. Wyoming Basin Province: Sedimentary and metamorphic rocks in this province are in the form of isolated low mountains and elevated plains in various states of erosion. The White River Plateau is included in this province and rates high in fertility and stability especially in areas of andesite and basalt.
4. North and Middle Park: These formations of sedimentary shales and sandstones with volcanic intrusion and flows; rates moderate in fertility and low in stability. The oil shale areas of NW Colorado are included in these.

Three major river systems originate in the subregion. They are: Rio Grande, Colorado, and North Platte River. Water production from all lands in the subregion amounts to 60 percent of the total water produced in Colorado. National-forest lands alone produce approximately 12 million acre feet annually. Present water use in this area is considerably below the amount produced; therefore, much of the volume is exported to the Eastern Colorado and to use areas in downstream States. Availability of unappropriated waters in this subregion will encourage additional major developments in the form of impoundments, diversions, and power production. The Upper Colorado River Development Project has already been approved by Congress. These projects as well as the Arkansas Frying Pan and other development projects will have numerous facilities on national forest and adjacent lands which will create unusual complexities and impacts in the management of basic resources.

There are four main characteristics of the subregion which give it unusual hydrologic features:

1. Amount and distribution of precipitation varies greatly over the watersheds with great accumulations

of water held in the snowpack at high elevations.

2. Prevailing steep gradients promote rapid discharge of the water.
3. Wide seasonal and annual range in stream flow results in unreliable supply at any given time.
4. During peak runoff periods, gradient and flow combine to transport tremendous amounts of sediment derived from the predominantly unstable soils.

National forest range is important in the subregion since it presently furnishes 369,000 cow months and 997,000 sheep months of summer grazing. This constitutes 71% and 86% of the Colorado permitted cattle and sheep use. Although considerable adjustments have been made, all forests still have some problems of adjusting stocking to grazing capacity. In addition to stocking adjustments, a continuing and accelerated program of range revegetation, management fencing, stock water developments and other range improvements is needed to put the range resource into full production. So long as national forest summer ranges remain a vital part of year-round ranching operations, to say that range management, in its broadest sense, will continue to be an integral part of multiple use land management is an understatement. It must be intensified.

The subregion supports deer and elk in large numbers and bear and Bighorn sheep in smaller but huntable numbers. Despite liberal hunting seasons and bag limits, and better access, many key winter range areas still remain over-populated with big game. Elk are essentially year long residents of national forest areas. Because of land use conflicts there are few areas other than the national forests where elk can be managed as a compatible hunting resource. Therefore, elk merit particular attention in national forest management. Deer winter range problem areas are generally less extensive inside the national forests than outside. Small game is little utilized at this time and the resource relatively undeveloped.

6,700 miles of fishing streams and 22,400 surface acres of lakes and reservoirs are available for fishing. The quality and productivity of the waters vary greatly, with some adversely affected by pollution, channel disturbance, and critical fluctuations in streamflow and reservoir level. Numerous water impoundments and diversions affect the fish habitat and complicate fish management.

The subregion is generally overstocked with beavers, and in many cases, beavers occupy sites unsuitable from the standpoint of watershed management.

In 1958 the national forests of the subregion provided 1.5 million mandays of hunting and fishing recreation (approximately $\frac{1}{4}$ for hunting and $\frac{3}{4}$ for fishing). 75% of the big game hunting on Colorado national forests is in this subregion. It provides 12% of the big game hunting for hunters from the "greater Denver area." In 1957 this subregion contributed 85% of the Colorado deer kill and over 90% of the elk kill. Within the national forests of the subregion, 32% of the hunting is by non-residents of Colorado, and 31% by hunters from the 9 eastern slope counties containing all but one of the State's larger cities.

There are approximately 5 million acres of national forest commercial forest lands in the subregion. This represents 78% of the total national forest commercial forest lands in Colorado. The annual allowable cut for the subregion is 183 million bd. ft. This is 77% of the total allowable cut for all of the national forests in the State. During FY 1958, approximately 110 million bd. ft. of timber were cut in the subregion. This was 87% of the total timber cut from national forest lands in this State. The actual cut fell short of their allowable cut by 45%. There are many acres of non-producing timber land in the forests resulting from promiscuous cutting and wild fires prior to the establishment of national forests. New inventories, intensification of management, conversion of the mature and over-mature stands to growing ones, and new and better markets should result in an increase in annual cut - at first by a small amount and later considerably more.

Being predominantly mature or over-mature, unmanaged in the strictest sense and inaccessible, these commercial timber stands are still subject to the hazards of nature. Insects, disease, and wildlife continue to threaten and consume a considerable volume of marketable wood projects. Most notable is the devastating and costly Engelmann spruce bark beetle epidemic which killed some 4 billion board feet of timber in this subregion at a cost of several million dollars. Better and more facilities to properly utilize all timber size classes, increased knowledge about our timber species, and accessibility to all drainages will promote timely and effective conversion of the "wild forests" in this subregion to managed ones and to attainment of desirable intensive management for thrifty and young stands. Best estimates indicate that planting is needed promptly on more than 15,000 acres of under stocked stands or denuded areas. Timber stand improvement of all kinds is needed on more than 262,000 acres.

Recreation on national forests in the subregion totaled more than 2.7 million mandays in 1957. This is 27% of the total recreation use in Region 2 and $3\frac{1}{2}\%$ of the total national-forest recreation use in the United States. Winter sports area use was 224,000 visits or 67% of Region 2 use and 7% of the total national use in this category. It is estimated that recreation use pressures will increase 3 times by 1970 due to population increases and improvement of transportation systems and other factors. Best estimates indicate that recreation use now exceeds the safe capacity of existing sites and facilities by 75%. Present financing under the "Operation Outdoors" program precludes meeting this demand by 1970. Development priorities, on a recreation use basis, are set forth in the F.S.M.

The subregion is crossed by five east-west and three north-south major highways. A highway designated as part of the U.S. Interstate Highway System will cross the subregion from east to west. The route of this Highway has not been determined. A network of interconnecting secondary roads provides access to all principal parts of the subregion. Completion of the Interstate route will contribute greatly to increased use and development of resources within it. There is need for careful consideration of the impact of the interstate route on all resource plans. Additional transportation facilities and developments, particularly forest highways, forest development roads and trails, are urgently needed for optimum use of resources. Access through intermingled and non-national forest lands presents a problem in obtaining permanent rights-of-way on existing roads or in the development of new ones. Truck and bus lines supply a great part of the transportation needs. This type of service is increasing and will have to increase much more if the resources are to be properly developed. Rail transportation is provided within the subregion by one railroad system. Little expansion of the railroad net is expected. Air transportation within the subregion is provided by two commercial airlines which serve the principal cities. Charter air service is available. Air travel will become increasingly important as the subregion is developed.

Located within the forest boundaries of the subregion and intermingled with N.F. lands are 852,000 acres of State and private land. They represent $7\frac{1}{2}\%$ of the national forest gross area. The subregion is lacking a complete and accurate status record. Through acquisition and exchange, progress has been made toward improving the land ownership pattern. There is, however, an urgent need for more progress in blocking out ownerships of both Government (State and Federal) and private land if a good job of total land planning and management is to be done.

There are now approximately 3,000 special land uses within the subregion. This type of impact on resources is brought into better perspective, when we consider that the increase in number is about 3% annually and that the average special use involves approximately 660 acres of forest land. Very close correlation with all other resource demands both now and in the future is required.

Fire and its control are important factors to be considered. Present fire occurrence and damage statistics do not adequately reflect this importance. Increased risk in combination with increasing hazard will create a serious large fire potential which must be recognized and given particular consideration in future planning. The history of fire occurrence takes on an irregular pattern. In 1956 there were 166 man caused fires and 122 lightning fires, making a total of 288. While for 1956 the total fires were only about 25% above normal, the acreage burned was several times greater than the normal. This illustrates a recurring peak situation that must be considered in management. For many people visiting the subregion, it will be their first time to come in contact with forested land. This provides an opportunity and, is a responsibility, for educating them in fire prevention needs.

Early day mining and prospecting were localized in certain mineralized areas throughout the subregion and resulted in the development of a number of settlements - now towns and communities. The land scars and old roads from this activity are prominent features of the landscape. Many of the roads have been improved and others are still passable to jeeps thus giving access to a great deal of country. The pattern of the many overlapping patented claims results in status and trespass problems. The activity on unpatented claims by prospectors and miners is a constant concern to the land manager to prevent trespass and to encourage recognition of the need for conservation measures on the part of miners over whom he has little or no control. Administrative problems from mining will recur with new mineral discoveries or with the fluctuation in metal prices. While some progress has been made in correlating this activity with the objectives of good land management, continuous effort is needed to reduce land abuses from it.

It is evident that the intense and growing pressures from public use have a profound effect on national-forest resources. It is equally apparent that the growing demand for products and services from these lands will require closely correlated functional planning. To achieve these objectives, Management Direction must be established to harmonize competing demands in multiple use of the land and point the way to increased total production.

III. GENERAL MANAGEMENT DIRECTION

Set forth in this section are management directions, by resources and uses, that are common to all management zones in the subregion. (Management Zones are explained in the next chapter.) This is done to avoid repeating these directions in each zone. Thus the management direction set forth later for each zone applies to that zone and no other.

In the management of any resource or use, it is necessary that:

- (1) Soil is considered the basic resource with which we are dealing and that it is the medium supporting or influencing other resources. This will be an overriding consideration.
- (2) Close working relationships will be maintained with agencies, organizations or individuals concerned with the management and protection of that particular resource or use. Examples are: cooperation with health departments is essential in developing public use areas and with game and fish departments in the management of game and fish.
- (3) As research findings become available, resource management will be adjusted and developed to make use of the data.

SOIL

THE BASIC MANAGEMENT DIRECTION IS TO KEEP SOIL IN PLACE AND TO IMPROVE ITS QUALITY FOR PRODUCTION OF VEGETATION AND OPTIMUM STORAGE OF WATER.

1. Accelerated erosion resulting from resource use, fire, or construction will be corrected as promptly as circumstances permit. In all Forest Service construction, erosion preventative measures will be incorporated into the design.
2. Soil types, soil characteristics, and permissible soil uses will be determined by soil technicians. This information will be furnished resource managers in usable form for application in management.
3. Permits, easements or agreements authorizing projects involving disturbance will include requirements for preventing damage, restoring soil stability and vegetative cover. Bonds or cooperative deposits will be used to insure prompt performance.

4. Soil damage resulting from fire control operations will be corrected prior to releasing all crews and equipment, and financed from fire control funds.

Damages will be evaluated on project fires concurrently with control operations in order to establish need for an Emergency Flood Control Project or other treatment.

5. Close working relationships will be maintained with agencies, organizations, and individuals concerned with the classification, mapping, management and protection of soil, both inside and outside the national forests,

WATER

MANAGEMENT DIRECTION WILL PROVIDE FOR PROTECTION OF THE WATERSHED AND ITS WATER RESOURCE DEVELOPMENT POTENTIAL AND IMPROVING WATER QUALITY AND YIELD.

1. Management practices that will increase and protect usable water consistent with good resource management will be given preference.
2. Any agreements negotiated or permits issued for water development, diversion or impoundment on national forest land will provide for adequate protection of soil and water. Consideration will be given to on-site needs of water for resources and uses.
3. Initiate water developments or assist in their development by others for on-site use when consistent with State law and in public interest.
4. Cooperate with other agencies and municipalities in the development of water supplies and in the control of pollution.
5. Plans for water development should be compatible with maximum effective development of water resource potential.

TRANSPORTATION

GIVE HIGH PRIORITY TO TRANSPORTATION SYSTEM DEVELOPMENT FOR FULL UTILIZATION OF THE SUBREGION RESOURCES.

1. Needed resource use developments should precede or accompany access road construction. In the construction work, protect natural features and

capitalize on present and potential forest values.
Avoid classified areas.

2. Construction projects will provide for prompt soil stabilization through design, revegetation or other means.
3. Maintenance of transportation routes will be conducted so as to minimize soil disturbance.
4. Take advantage of all methods, including condemnation procedure if necessary, to obtain permanent rights-of-way for public access.
5. Locate highways, roads, Jeep ways, and trails to avoid stream channel disturbance. If not possible, fish habitat will be developed in relocated stream channels to fullest extent possible.
6. Obliterate and revegetate right-of-way of abandoned system roads.
7. Trail systems should be reduced as new road construction proceeds.
8. Motor vehicular routes should avoid classified areas to help keep their boundaries inviolate.

RANGE

LAND SUITED TO GRAZING WILL BE MANAGED FOR THAT PURPOSE

1. Determine sound capacities for all ranges using accepted range analysis techniques and actual use data.
2. Keep abreast of range trend on selected key areas by installation of permanent transects. Provide for periodic review.
3. Develop and manage usable range to obtain optimum forage production.
4. Revegetate the productive areas now in poor condition.
5. Remove livestock from unusable range.
6. Adjust numbers of livestock and seasons where the need is indicated.

WILDLIFE

FISH AND WILDLIFE HABITAT WILL BE MANAGED TO PROVIDE OPTIMUM FOOD COVER AND WATER. THROUGH COOPERATION AND COORDINATION DEVELOP OPTIMUM SUSTAINED PRODUCTION OF FISH AND GAME FOR RECREATION USE.

1. Maintain close and effective working relations with all wildlife organizations and management agencies.
2. Plan and execute fish and wildlife habitat improvement programs.
3. Consider habitat needs of wildlife when planning and developing other uses and activities.
4. When practicable, provide public fishing on water impoundments.
5. Provide proper public access to public fishing waters and hunting areas.
6. Initiate an effective beaver management program.
7. Cyanide guns will not be permitted in or near areas of heavy use, nor along roads or trails that are regularly used.
8. Encourage an adequate harvest of big game animals to balance herds with range capacity.

TIMBER (See Intermediate Zone)

Management of commercial timber lands will be limited to the intermediate zone. Timber management within other zones will be in accordance with specific directions contained therein.

RECREATION

MANAGEMENT DIRECTION WILL AIM AT INVENTORY MAINTENANCE AND DEVELOPMENT OF THE RECREATION RESOURCE BY PRIORITIES AND CLASSES TO MEET THE DEMAND TO THE EXTENT SUCH IS IN THE BEST INTEREST OF THE PUBLIC.

1. Aesthetic values will be given consideration in the management of all resources, occupancy, and use.
2. Priorities in recreation development and uses will be assigned to favor the highest form of recreation use.

3. All recreation facility construction either by permit or force account will be in the Travel or Water Influence Zones with the exception of minimum sanitary facility construction which may be necessary on heavily used fishing streams and lakes in the back country.
4. Encourage commercial, occupancy, and single purpose type recreation developments on private land where such will complement over-all Land Management.

LANDS

MANAGEMENT DIRECTION WILL BE TO IMPROVE LAND OWNERSHIP PATTERN AND TO ADMINISTER LANDS CONSISTENT WITH PROPER USE ON A COORDINATED BASIS.

1. Boundary adjustment and land exchange will be used to consolidate ownership, with emphasis on acquiring lands with high multiple-use value and disposing of lands better suited to private ownership.
2. Inventory and acquire key areas for administrative use, rights-of-way and other areas that will promote N.F. resource use and development.
3. National forest lands bordering streams and lakes or which provide valuable public access will not as a rule be exchanged.
4. Particular consideration shall be given to securing rights-of-way to provide public access to N.F. land.
5. In connection with planned Federal reservoir projects (inside the forests) make concerted effort to have private land needed for public use, health and property protection acquired and placed under National Forest administration.
6. Lands with extraordinary public resource or administrative value will be given protection through the use of appropriate laws, regulations, or Executive orders.

SPECIAL LAND USES

MANAGEMENT WILL BE DIRECTED TOWARD LIMITING SPECIAL USES TO THOSE OF PUBLIC VALUE OR WHICH ARE IN THE INTEREST OF LOGICAL AND PRACTICAL MANAGEMENT.

1. Occupancy and use will be carefully regulated so as to protect and maintain all resource values.

2. Uses not compatible with management priorities and objectives will be placed on suitable tenure and eventually eliminated.
3. Encourage occupancy type of recreation on private land when available.

MINERALS

ASSIST AND COOPERATE WITH LEGITIMATE MINERAL ACTIVITY AND ACTIVELY PROTEST ABUSES OF THE MINING LAWS.

1. Recognize legitimate mineral activity as a form of resource use and cooperate with the miner and prospector so engaged.
2. Mining activity which exceeds normal operations and results in damage to N.F. land will be subject to injunction until the validity of the claim is determined.
3. Provide stipulations in coal, gas and oil leases which will fully protect N.F. interests.

FIRE

FIRE PLANNING SHOULD BE KEPT CURRENT TO PROVIDE GUIDANCE FOR MODERNIZATION OF FIRE CONTROL PROCEDURES IN KEEPING WITH DYNAMIC LAND MANAGEMENT PROGRAMS.

1. As a guide to fire control planning and practices, recognize that increasing hazard and risk seriously threaten all resource values.
2. Emphasize analysis of the fire problem with particular attention to: prevention, fuel treatment, State, county and private land problems, cooperative relationships with other land management agencies and military installations.
3. Hold fire losses within tolerable limits as determined by zone needs.
4. Through good resource management, reduce the opportunities for wild fires to start; improve the opportunities to facilitate their control.
5. Provide an expanding fire prevention program directed at the increasing number of new residents and tourists.

IV. MANAGEMENT ZONES

Zoning is used as a device in this guide for isolating or separating areas in the subregion for which management consideration, as regards priorities, objectives and direction should be different. A management zone may be defined as an area within which a controlling resource or use (sometimes more than one) can be isolated for inventory and analysis, for which specific controls may be set forth.

The management zones used in this subregion are: Crest, Intermediate, Low, Travel Influence and Water Influence. Each zone is described and illustrated by a photograph. For each zone, management priorities, objectives, and directions are set forth. The management directions listed for each zone are directions which apply specifically to the zone. It should be remembered that the management directions in Chapter III are common to all management zones.

Special Areas - Included in this category are: Wilderness Areas (including primitive areas), Wild Areas, Geological Areas, Natural Areas, Scenic Areas, etc.



Representative Illustrations
of
Crest Zone



CREST ZONE

The Crest Zone is the highest area within the Western Colorado subregion. The altitudinal range varies from about 10,500 to over 14,000 feet and generally extends north to south through the central part of the State. There is also a western extension of the Crest Zone in the southwestern part of the subregion. The Crest Zone includes the alpine and sub-alpine types down to the upper limits of the commercial timber type.

Water yield per acre within the subregion is highest in this zone. The production of water is estimated to be an average of $2\frac{1}{2}$ acre feet per acre annually.

The zone is important summer range for big game and furnishes considerable ~~range~~ for domestic livestock. Harsh climatic conditions and shallow soils limit the vegetative production and dictate a policy of conservative use.

The zone has a cool, short summer climate and contains much spectacular scenery. Numerous lakes and streams are found throughout this zone. Hiking, pack trips, fishing, hunting, skiing, and mountain climbing constitute the chief recreational use in the zone.

MANAGEMENT PRIORITY

1. Water - primary

MANAGEMENT OBJECTIVES

1. To provide for the accumulation and delivery of the maximum amount of usable water in a regulated flow.

2. To establish and use sound grazing capacity estimates, and proper management for wildlife and domestic stock.

MANAGEMENT DIRECTION

Water

1. Research on watershed management should be given high priority.
2. An accelerated, correlated research program is needed and should be given high priority to determine soil-water relationships.

Transportation

1. Vehicular travel should be limited to acceptable or approved routes.

Range

1. Livestock will be excluded from unstable slopes.
2. Special attention will be given to conservative livestock use.
3. The need for forage for recreation pack and saddle stock will be recognized when permitting grazing in this zone.
4. Range research correlated with other research should be given high priority.

Timber (non-commercial)

1. Timber stands will be protected from fire, insects, and disease consistent with the values contained therein. Insect and disease activity will be kept under surveillance and control measures will be considered when approaching epidemic proportions.
2. Slash resulting from insect and disease control and other cutting will be treated as needed.

Recreation

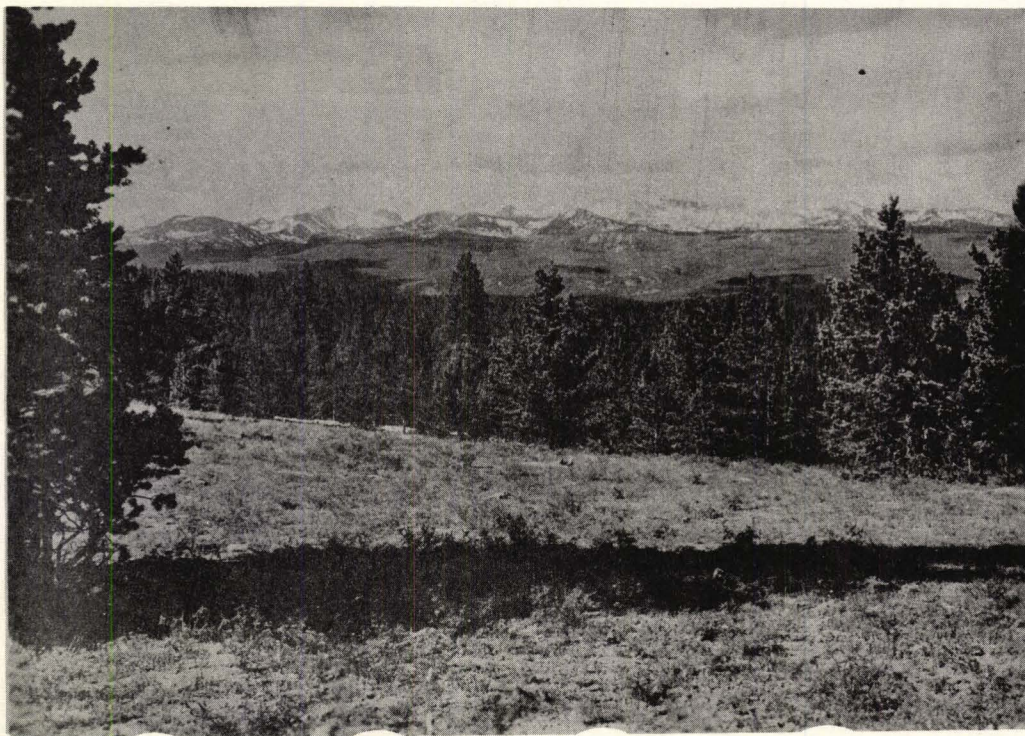
1. Development and use of recreational areas will be carefully regulated so as to protect and maintain soil and water values.
2. Simple recreation facilities should be provided in the back country, particularly on important fishing streams and lakes.

Wildlife

1. Special attention will be given to summer elk populations to prevent overgrazing and soil disturbance.



Representative Illustrations
of
Intermediate Zone



INTERMEDIATE ZONE

The Intermediate Zone extends from the lower limits of the ponderosa pine and aspen and oak types, through the lodgepole pine type to the upper limits of the spruce-fir commercial timber type.

Annual precipitation varies from about 15 to 40 inches. Multiple-use management of this zone is most complex because of its size, accessibility, high use demands, and an often complicated land pattern. The Intermediate Zone because of its size produces the greatest volume of water.

It contains all of the commercial timber lands of the subregion.

Practically all of the national forest cattle range in the subregion is in this zone. Considerable numbers of sheep also graze in this zone.

Medium and upper elevations provide much of the summer range for big game animals. The lower elevations provide both summer and winter game range. Most of the fishing waters are in this zone.

MANAGEMENT PRIORITY

1. Water and Timber - primary
2. Range and Wildlife - secondary

MANAGEMENT OBJECTIVES

1. To grow and harvest a maximum quantity and quality of timber on a sustained basis.
2. To establish and use sound grazing capacities and management for wildlife and livestock consistent with optimum water production.

3. To integrate and coordinate recreation uses with other resource use.

MANAGEMENT DIRECTION

Range

1. Reserve forage for recreational pack and saddle stock, where needed and to the extent available.
2. Horse use, other than for recreation, will be limited to the absolute minimum required for the operation.
3. Prescribe ground spraying where stream bank or perimeter vegetation cannot be protected in the course of aerial spraying for range improvements.

Timber

Land primarily suited for growing timber will be managed and developed to attain full production.

1. Allowable annual cut on all working circles should be attained by 1965. Management of timber will be directed towards putting all commercial forest land in the best growing condition. The sustained yield capacity of all working circles in the subregion is the ultimate objective. This will include completing the harvesting of overmatured stands by the year 2000; completion of all regeneration of understocked and non-stocked commercial forest land by 1980; and accomplishing all necessary timber stand improvement work as required.
2. Obtain full stocking of all partially and non-stocked commercial forest lands as rapidly as possible; one-half of the job should be completed by 1970. Also, lands of high priority for watershed, recreation or other purposes will be reforested according to approved lands and programs for those uses.
3. Recognize proximity of classified and special areas, (including similar areas in other ownerships) and include provision to prevent unacceptable accumulation of slash, danger from fire, or other practices detrimental to desirable and approved management of such areas.
4. Place greater emphasis on, and implementation of, an efficient timber salvage program particularly where an accelerated program will reduce insect damage.
5. Create better markets for wood products for all species of all size classes and improve utilization in order to permit better vegetative management.

6. Prevent damage to fishing streams and keep them free of debris.
7. Timber Management practices should complement other resource values where practicable.

Wildlife

1. Preserve a reasonable portion of the forage crop to meet needs of desirable wildlife population.
2. To the extent possible, regulate and coordinate other activities and uses so that streams, lakes, and reservoirs retain their potential for fish habitat.



Representative Illustrations
of
Low Zone



LOW ZONE

The Lower Zone is the area below the ponderosa pine, aspen, and oak timber types. Vegetation is composed, for the most part, of such species as pinon pine, juniper, sagebrush and associated vegetation. The upper elevation of this zone varies throughout the subregion from 5,000 to 8,000 feet.

Annual precipitation is generally below 15 inches. Summer rainstorms of high intensity and short duration occur spasmodically. Water production is very low. This zone contributes much silt to the streams which pass through it.

Soils in this zone vary throughout the subregion. Accelerated erosion stemming from land abuses is widespread. Much of the top soil has been lost. Topography ranges from gently rolling to precipitous.

The zone furnishes important winter deer range over most of the subregion. Livestock grazing and recreation, other than hunting, are minor.

MANAGEMENT PRIORITY

1. Wildlife - primary

MANAGEMENT OBJECTIVES

1. Recognize and protect areas important for wildlife.
2. Coordinate management of game winter range use with other management agencies and private land.

MANAGEMENT DIRECTION

Range

1. Livestock will be excluded from steep unstable slopes.

2. Special attention will be given to livestock management through range improvements for intensive management and revegetation of the many poor condition areas.

Wildlife

1. Key areas for big game winter range will be protected and managed for that purpose.

Timber

1. Exercise extreme care in the harvesting or utilization of minor species in this zone to prevent damage to soil.
2. Timber cutting will be done in such a manner and to such a degree that recreational values and facilities will be protected and enhanced.
3. Complete slash abatement will be practiced where recreational use dictates.

Lands

1. High priority will be given to surveys and posting of interior and exterior boundaries.



Representative Illustrations
of
Water Influence Zone



WATER INFLUENCE ZONE

This zone is established to define an area of land where management direction is dominated by consideration of values and uses related to selected bodies of water (including major streams). The water itself is considered in the zone. The zone is variable in width in order to include the needs that arise in the following areas:

- a. Shores of water bodies - including streams.
- b. Adjacent areas which can be used to draw certain types of occupancy, such as campgrounds, away from proximaty to the water's edge.
- c. Buffer strips of trees and other vegetation that furnish background or scenic values.

MANAGEMENT PRIORITY

1. Water - primary
2. Recreation - secondary

MANAGEMENT OBJECTIVES

1. To properly plan and provide for optimum use of existing and potential areas for recreation and occupancy consistent with the full protection of the water resource.

MANAGEMENT DIRECTION

Water

1. Water pollution will be prevented even if use and development have to be curtailed until necessary sanitation facilities can be provided.

Fire

1. Place special emphasis on fire prevention through taking advantage of use concentrations to tell our fire prevention story as well as other forest programs and activities.

Range

1. Range use will be adjusted and managed to avoid conflict with water and recreation use.
2. Key areas within the zone will be fenced if necessary to exclude livestock.

Timber

1. Timber utilization will be limited to (1) sanitation and salvage cutting, and (2) cutting specified in recreation Site or Area plans.
2. Complete slash abatement will be practiced where recreation use dictates.
3. The aim in all timber cutting operations will be to protect and enhance water and recreation values.

Recreation

1. Residence groups will not be established in this zone.
2. Existing residence permits will be terminated on a planned basis.
3. Commercial and public service developments will be permitted where the public need is well established and private land sites are not available.



Representative Illustrations
of
Travel Influence Zone



TRAVEL INFLUENCE ZONE

The Travel Influence Zone is a zone established along selected highways or other significant routes of travel to define an area of national-forest land on which the present or future highest use is primarily related to the effects of accessibility resulting from travel on highways and roads. It starts at the edge of the travel route right-of-way and includes the scenic strip where such exists.

Scenic strip designation is already required along Interstate, State, and Forest Highways and may be extended to other facilities in the transportation system. Management of the scenic strip will follow roadside zone policy set forth in the Manual.

The width of this zone may vary from a few hundred feet to a mile or more depending upon the aesthetics or physical characteristics of lands adjacent to the routes of travel. It includes the areas most suited for occupancy and use such as recreation sites, resorts, organization camps and residence groups.

The key characteristic of the zone is the volume and diversity of present and potential recreation value and services. It involves unusual problems and unusual opportunities in management. It is a critical area from the standpoint of continually being under the public's eye and involves some of the most tenuous and sensitive situations in national forest management.

MANAGEMENT PRIORITY

1. Recreation - primary

MANAGEMENT OBJECTIVES

1. Be sure that the important resources of the zone are fully considered, protected and intensively developed on the basis

of highest relative value to meet the demands resulting from accessibility.

2. To use this zone as a demonstration "show window" area of "Multiple-Use in Action."
3. To concentrate recreation and public service developments in this zone - providing for multiple-use to extent possible.

MANAGEMENT DIRECTION

Special Land Uses

1. All uses in connection with road and highway maintenance such as gravel pits, stockpiling, and maintenance shops will be located away from the travel route perimeter to the extent possible.

Recreation

1. Work with road and highway agencies to provide roadside rest and point of interest parking areas for traveling public.
2. Special attention will be given to preserving the natural scene such as screening occupancy uses, harmonizing architecture, and color.
3. All road locations will include consideration for optimum development of public recreation within the travel influence zone including sites for campgrounds, trailer parking, picnic areas, winter sports, etc.

Fire

1. Maximum advantage of concentrations of people will be taken to intensify our fire prevention program as well as to better inform the public of other forest programs and activities.

Range

1. Range use will be adjusted or managed to avoid conflict with recreation and other occupancy uses.
2. Key areas within the zone will be fenced to exclude livestock.

Lands

1. Priority will be given to survey and posting of interior and exterior national forest boundaries within this zone.
2. An inventory of rights-of-way needs will be made and an aggressive action program set up to obtain those needed.

Timber

1. Timber will be harvested in such a manner and to a degree that will be compatible with and will enhance recreation values and "show windows" along our roads.

SPECIAL AREAS

Special Areas are treated on an area basis because their boundaries are determined by particular considerations of public significance which are not necessarily duplicated from one instance to the next. Classified areas are placed in this category. Because of the variety of circumstances which may determine the need for classification, area descriptions are on a specific area basis. The kinds of areas most commonly encountered are listed:

- Wilderness areas (Including Primitive areas)
- Wild Areas
- Geological Areas
- Natural Areas
- Scenic Areas, etc.

Additional kinds of classified areas are listed and defined in the National Forest Manual. These areas share the feature that interest in management ordinarily is national rather than subregional. Management direction for individual areas will vary in accordance with management plans specifically designed for the area.

MANAGEMENT PRIORITY

To be established individually by areas.

MANAGEMENT OBJECTIVE

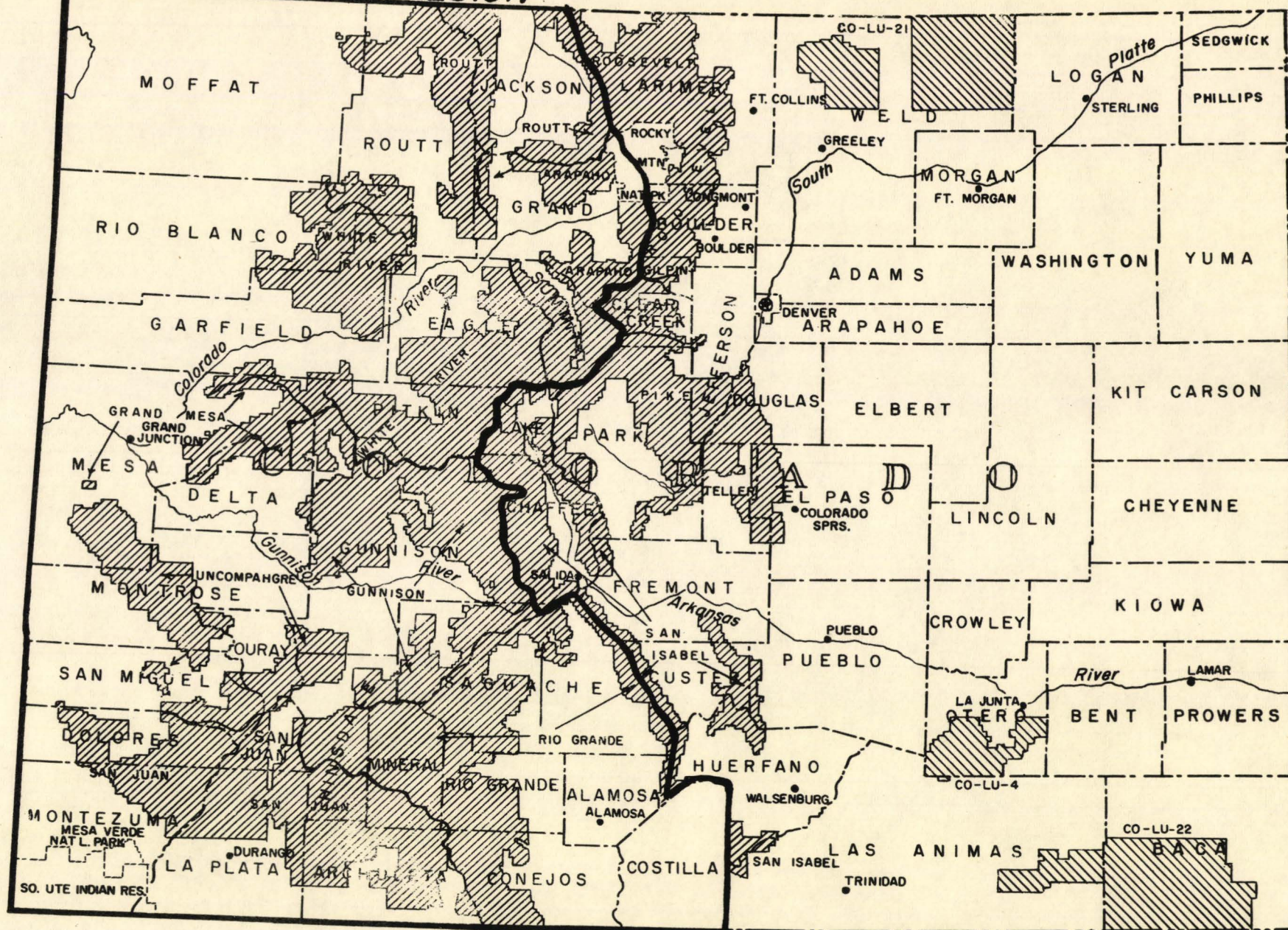
To be established individually by areas.

MANAGEMENT DIRECTION

To be established individually by areas.

APPENDIX

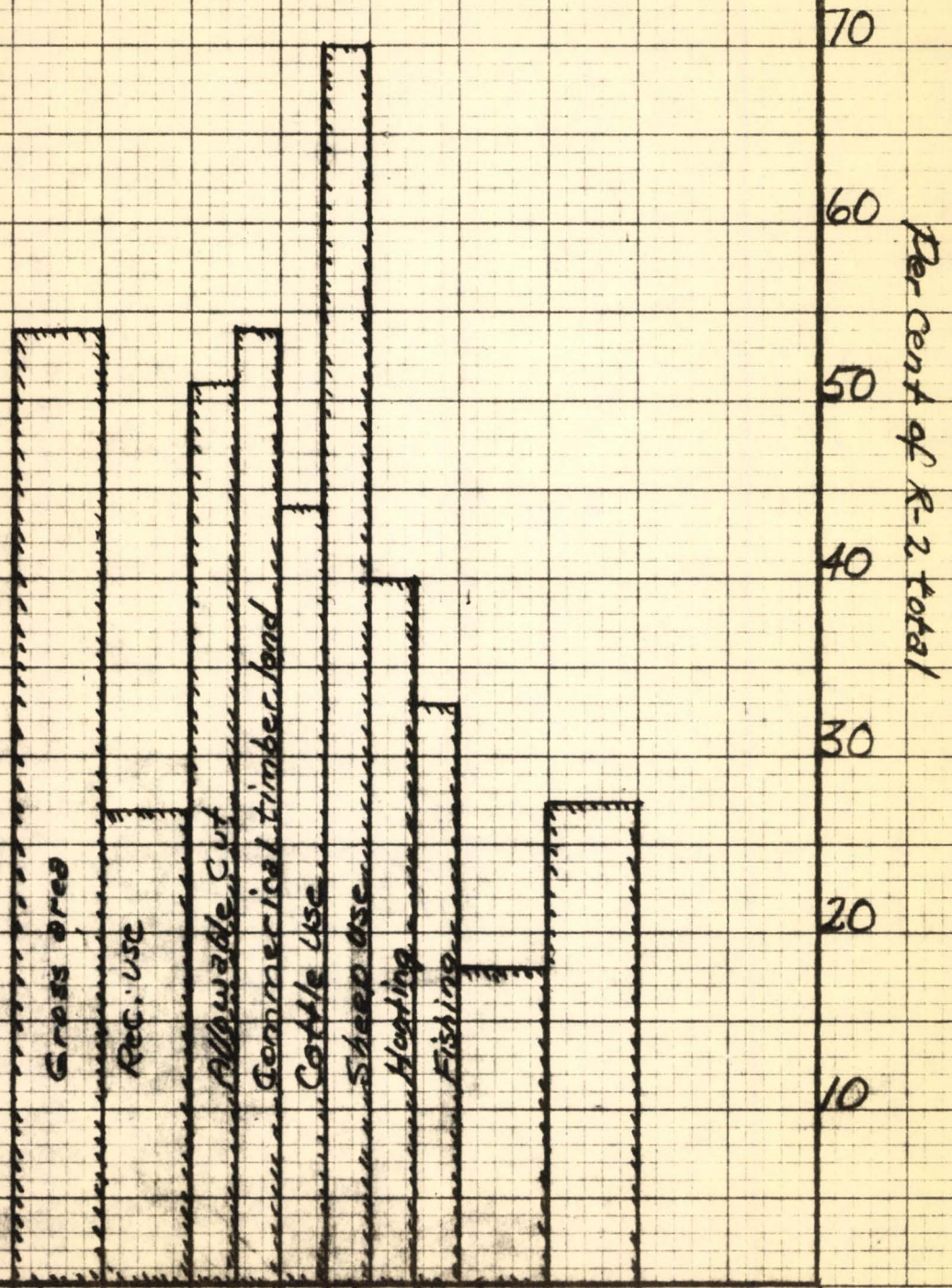
WESTERN COLO. SUBREGION



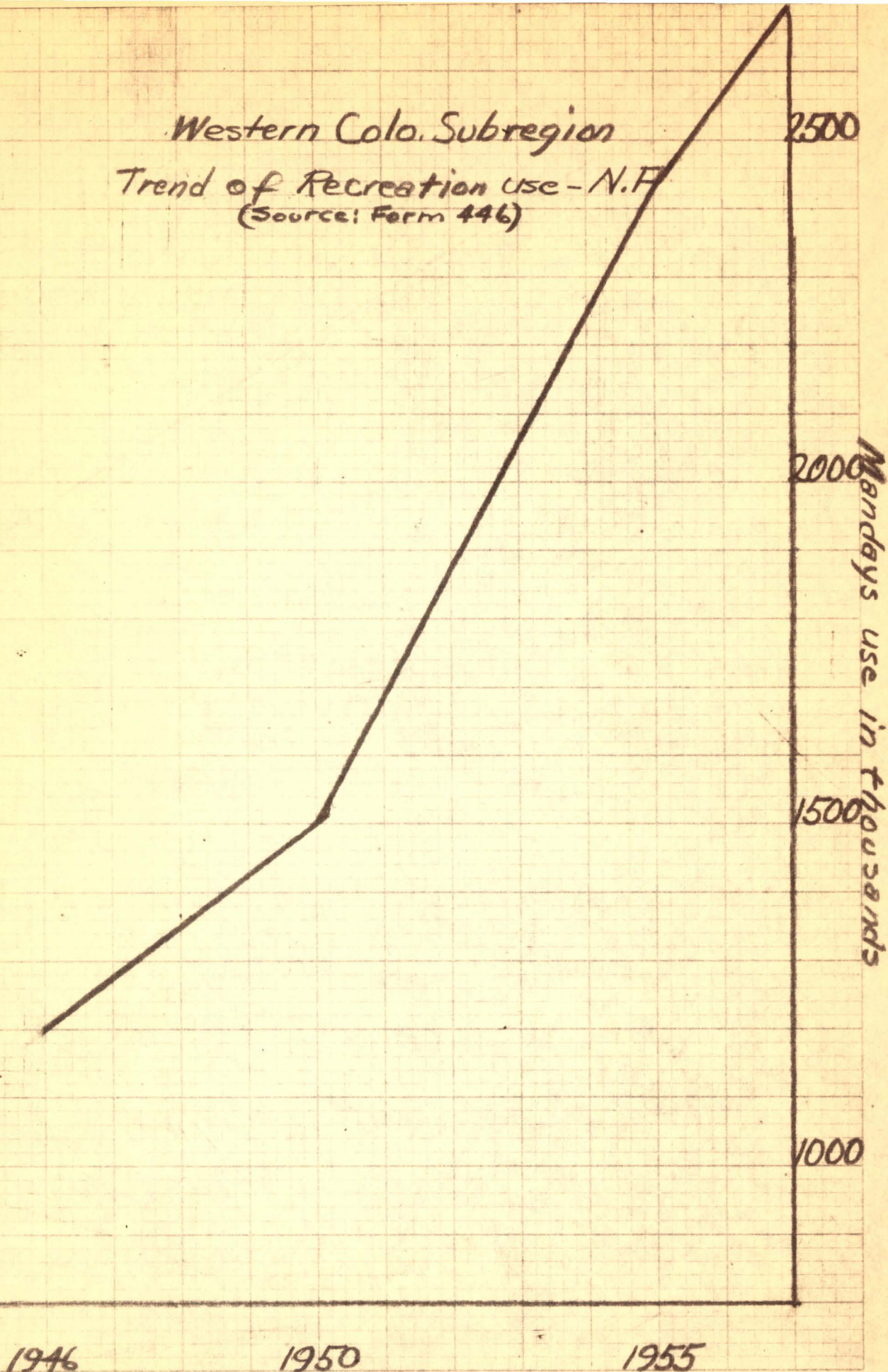
Western Colo. Subregion

Management Situation as a % of R-2 N.F.
(Source: Statistical Reports)

Area Rec. Timber Range Wild-life Hwy Class.
Travel Area

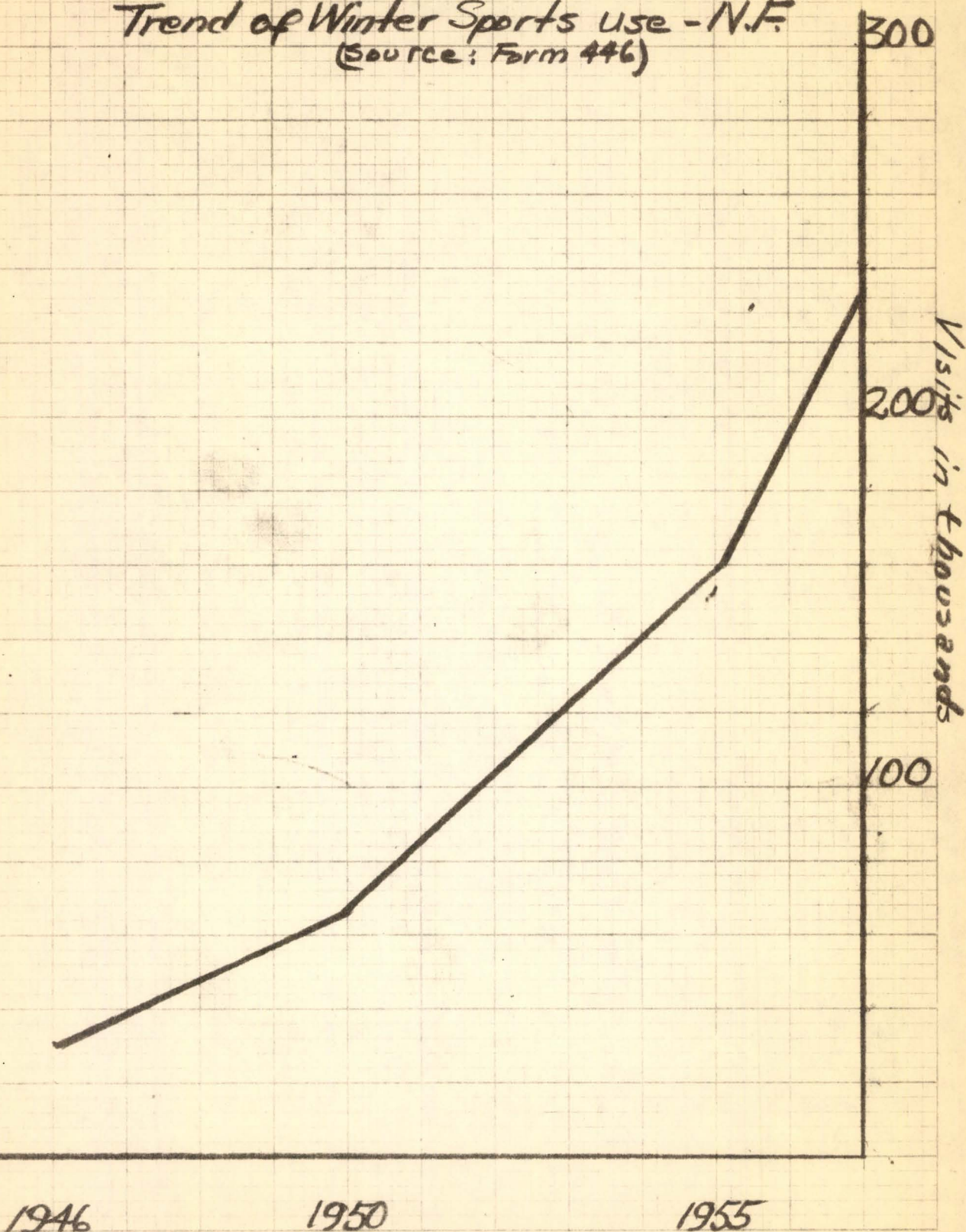


Western Colo. Subregion
Trend of Recreation use - N.F.
(Source: Form 446)

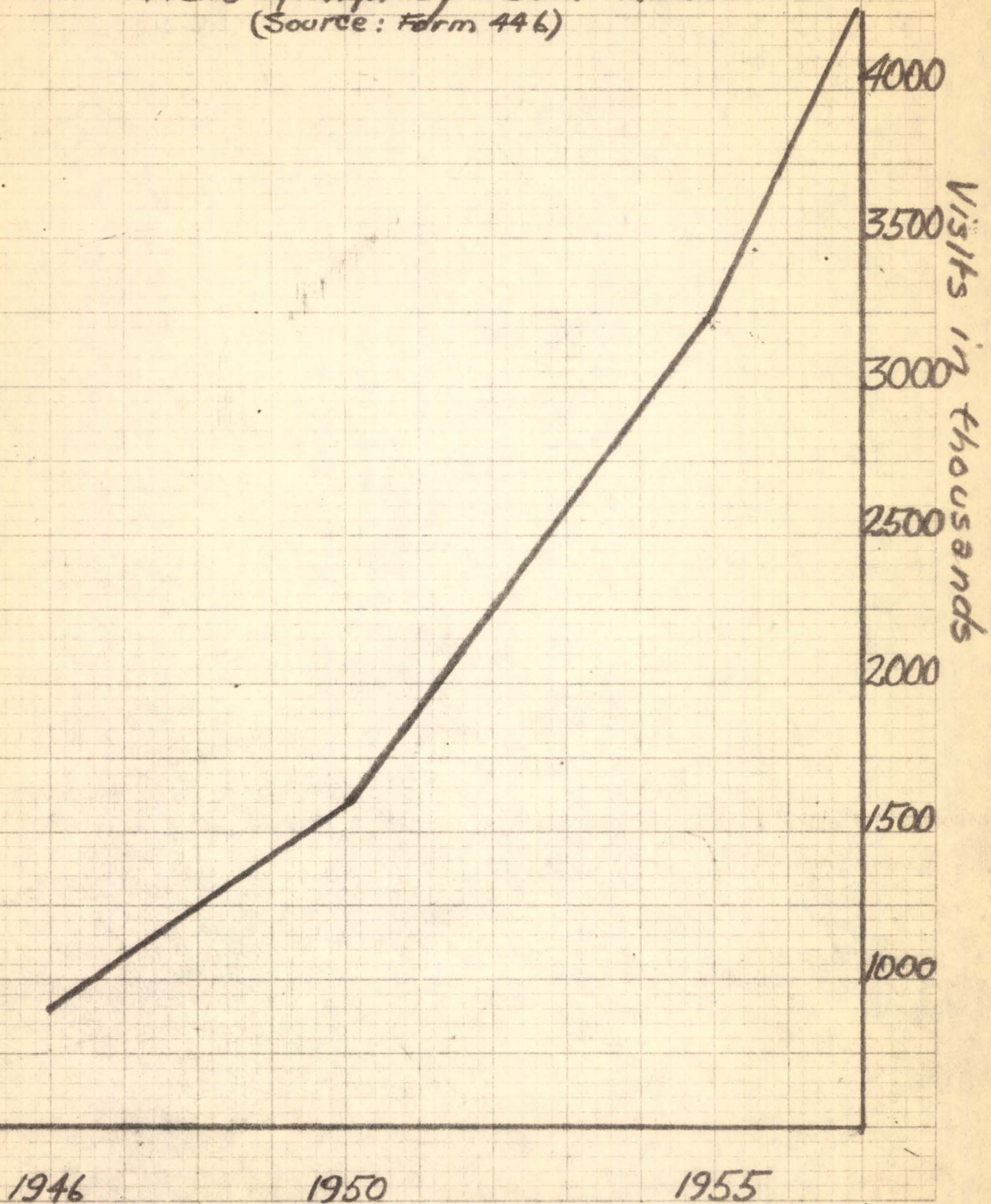


Note: Hwy use excluded

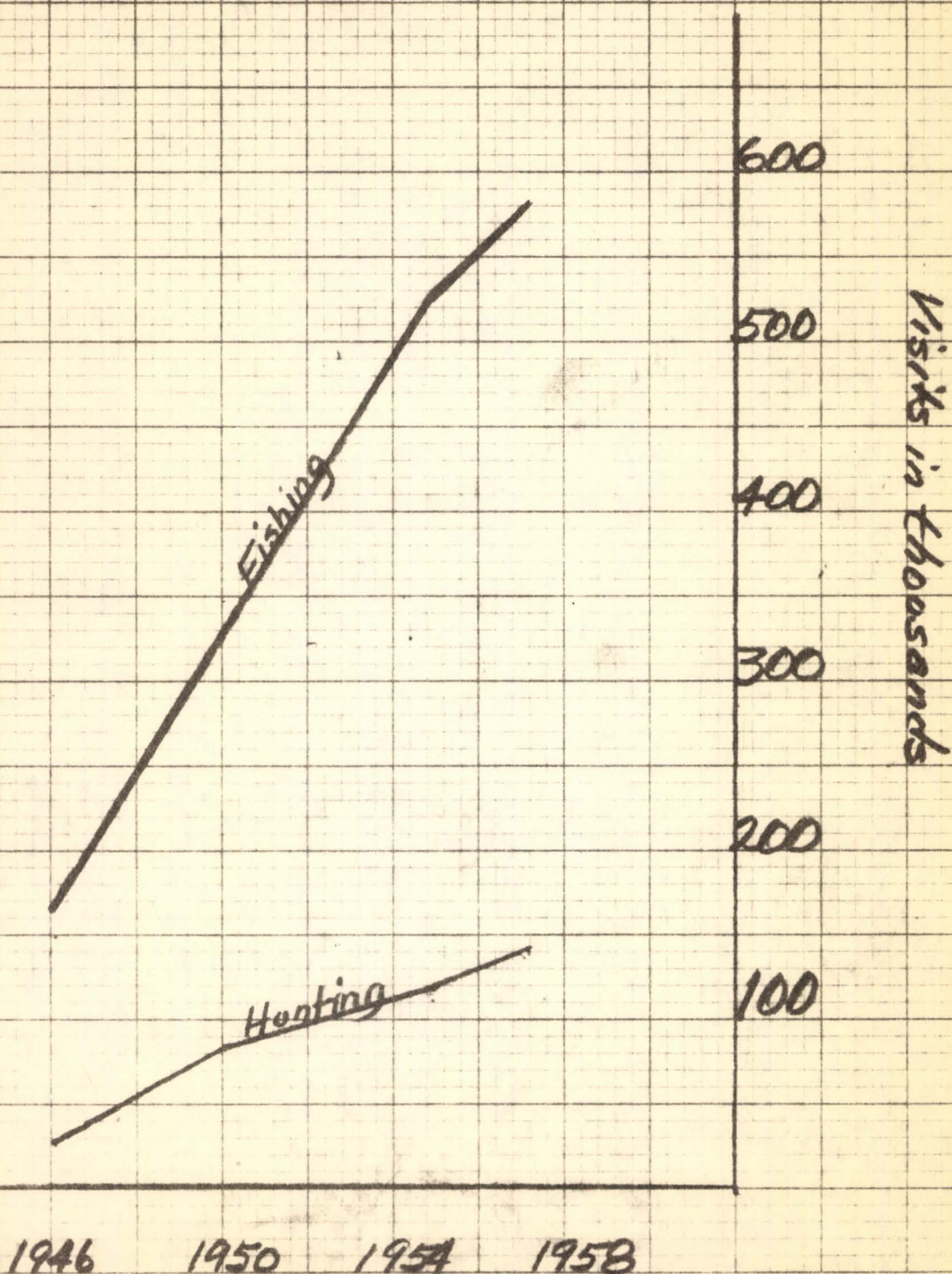
Western Colo. Subregion
Trend of Winter Sports use - N.F.
(Source: Form 446)



Western Colo. Subregion
Trend of Highway Travel - N.F.
(Source: Form 446)



Western Colo. Subregion
Hunting & Fishing use - N.F.
(Source: Form 446)



Western Colo. Subregion
Trend of Grazing use - N. F.
(Source: Grazing reports)

